Pyrosales
Total Sensor Solutions

DATASHEETS

for Mineral Insulated Alloy 825 Sheathed Fireproof Wiring Cables

Edition – January 2012

TRM & MICC
Cables for Life

Mineral insulated fire-proof wiring units and cables manufactured by TRM group of companies are made up of a metal conductor embedded in a compacted Magnesium oxide (inorganic) insulant inside a metal sheath.

The inorganic nature of the construction enables the cables to operate at high temperatures for long periods of time in extremely harsh environments e.g. petro-chemical, reactor vessels and other applications where the integrity of the cable is most important.

Operating temperatures:

Continuous exposure temperature
- Bare cable: up to 670°C
- Cable with PVC or LSF covering: up to 105°C
- Maximum exposure temperature: 1095°C.

Cables can be joined by joints that also withstand direct fire temperature 1095°C for 30 minutes without circuit failure.

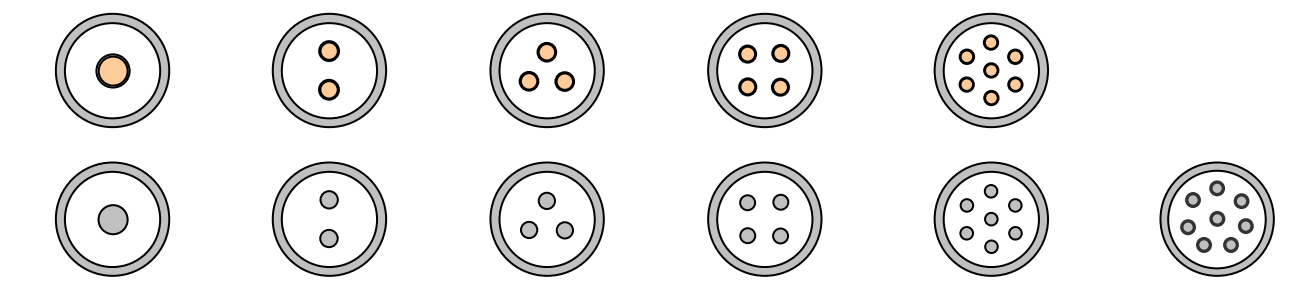
Construction:

Sheath material:
- Alloy 825

Number of conductors: from 1 up to 8

Conductor material:
- Nickel clad Copper, Nickel

Insulation material: Magnesium Oxide (MgO)



Single conductor | Two conductors | Three conductors | Four conductors | Seven conductors | Eight Conductors

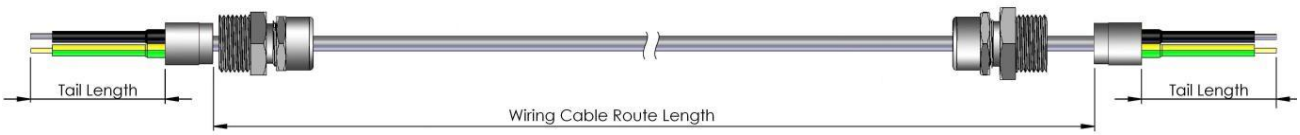
Termination construction
Gland fitting: stainless steel
Potting material: epoxy resin
Tails: standard solid tail length 250 mm

Electrical Parameters:
Supply voltage up to 750Vac (cable)

Approvals:

ISO 9001-2008
- Certificate No: 031422-1 (TRM Ltd), 031422-2 (MICC Ltd)

Wiring Cables Termination and Joints

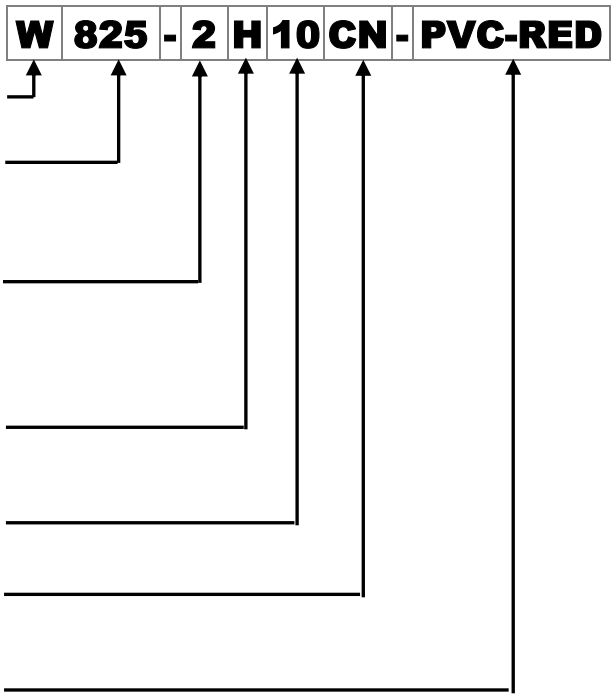


Without joint

With joint

Wiring Cable Metric Range reference

	Description
Category	"**W**" – **W**iring /Cold Lead-in cable
Sheath material	**825** – Alloy 825
Number of conductors	1 – One conductor 2 – Two conductors 3 – Three conductors 4 – Four conductors 7 – Seven conductors 8 – Eight conductors
Voltage Rating	"**H**" – Heavy duty 750V
Conductor cross section area	Cross section area of a single conductor
Conductor material reference	"**CN**" – Nickel clad Copper "**Ni**" – Nickel
Suffix for additional features such as colour coding serving	**"LSF**" – for LSF **"PVC- RED"** for red PVC etc.



Alloy 825 sheathed Fire-Proof Wiring Cable with Nickel clad Copper conductors 750V Range

Cable Reference	Cable diameter over metal sheath	Number of conductors	Copper cross section area	Conductor diameter	Current Rating[1]	Current Rating[2]	Voltage drop per A per m	Cable weight	Seal		Externally Threaded Gland	
									Plain	Earth tail	for plain seal	Earth seal
Bare	mm		mm^2	mm	A	A	mV	Kg/km	mm	mm	mm	
W825-1H1.5CN*	5.70	1	1.5	1.58	27	24	37	73	20	20	20	20
W825-1H2.5CN*	6.30	1	2.5	2.03	38	35	25	95	20	20	20	20
W825-1H4.0CN*	6.60	1	4.0	2.57	47	43	9.4	115	20	20	20	20
W825-1H6.0CN*	7.30	1	6.0	3.14	61	55	6.2	150	20	25	20	25
W825-1H10CN*	8.30	1	10.0	4.06	92	83	3.7	212	20	25	20	25
W825-1H16CN*	9.60	1	16.0	5.13	124	111	2.4	308	20	25	20	25
W825-1H25CN*	11.40	1	25.0	6.41	164	179	1.5	454	25	32	25	32
W825-1H35CN*	12.70	1	35.0	7.59	199	179	1.1	596	25	32	25	32
W825-2H1.5CN	9.30	2	1.5	1.58	28	25	29	186	20	25	20	25
W825-2H2.5CN	10.10	2	2.5	2.03	38	33	18	231	20	25	20	25
W825-2H4.0CN	11.40	2	4.0	2.57	49	44	10	309	25	25	25	25
W825-2H6.0CN	12.70	2	6.0	3.14	63	57	7.2	400	25	32	25	32
W825-2H10CN	14.80	2	10.0	4.06	86	77	4.3	577	25	32	25	32
W825-3H1.5CN*	9.60	3	1.5	1.58	23	21	25	209	20	25	20	25
W825-3H2.5CN*	10.70	3	2.5	2.03	31	28	14	276	20	25	20	25
W825-3H4.0CN*	12.10	3	4.0	2.57	42	38	9.4	373	25	32	25	32
W825-3H6.0CN*	13.60	3	6.0	3.14	54	49	6.2	498	25	32	25	32
W825-3H10CN*	15.60	3	10.0	4.06	71	64	3.7	708	25	40	25	40
W825-4H1.5CN*	10.70	4	1.5	1.58	24	22	25	263	20	25	20	25
W825-4H2.5CN*	12.10	4	2.5	2.03	32	29	14	358	25	32	25	32
W825-4H4.0CN*	13.60	4	4.0	2.57	43	39	9.4	480	25	32	25	32
W825-4H6.0CN*	14.80	4	6.0	3.14	53	48	6.2	611	25	32	25	32
W825-4H10CN*	17.30	4	10.0	4.06	71	64	3.7	894	32	40	32	40
W825-7H1.5CN	12.70	7	1.5	1.58	16	15	29	388	25	32	25	32
W825-7H2.5CN	14.70	7	2.5	2.03	23	21	18	551	25	40	25	40
W825-7H4.0CN	16.60	7	4.0	2.57	26	23	10	750	40	-	40	-

[1] LSF or PVC covered cable 70°C

[2] Bare cable 70°C

* Current rating and volt drop values are for 3 phase operation, single conductor cables installed horizontally spaced. All other values are for single phase operation. Up-rating factors apply if not all conductors are used as current-carrying conductors.

Alloy 825 sheathed Fire-Proof Wiring Cable with Nickel conductors 750V Range

Cable Reference	Cable diameter over metal sheath	Number of conductors	Copper cross section area	Conductor diameter	Current Rating[1]	Current Rating[2]	Voltage drop per A per m	Cable weight	Seal		Externally Threaded Gland for	
									Plain	Earth tail	Plain seal	Earth tail seal
Bare	mm		mm^2	mm	A	A	mV	Kg/km	mm	mm	mm	mm
W825-2H1.5Ni	7.9	2	1.5	1.38	10.0	9.1	156.8	135	20	20	20	20
W825-2H2.5Ni	8.7	2	2.5	1.78	13.9	12.4	95.0	173	20	20	20	20
W825-2H4.0Ni	9.8	2	4.0	2.26	18.2	16.3	55.8	230	20	25	20	25
W825-2H6.0Ni	10.9	2	6.0	2.76	23.2	20.9	39.0	299	20	25	20	25
W825-3H1.5Ni*	8.3	3	1.5	1.38	8.5	7.7	134.4	157	20	20	20	20
W825-3H2.5Ni*	9.3	3	2.5	1.78	11.6	10.4	78.2	209	20	25	20	25
W825-3H4.0Ni*	10.4	3	4.0	2.26	15.5	13.9	50.8	279	20	25	20	25
W825-3H6.0Ni*	11.5	3	6.0	2.76	19.7	17.8	33.5	365	25	25	25	25
W825-3H10Ni*	13.6	3	10.0	3.57	26.7	24.0	20.1	541	25	32	25	32
W825-4H1.5Ni*	9.1	4	1.5	1.38	8.9	7.9	134.4	193	20	20	20	20
W825-4H2.5Ni*	10.1	4	2.5	1.78	11.6	10.4	78.2	256	20	25	20	25
W825-4H4.0Ni*	11.4	4	4.0	2.26	15.5	13.9	50.8	347	25	25	25	25
W825-4H6.0Ni*	12.7	4	6.0	2.76	19.7	17.8	33.5	457	25	32	25	32
W825-4H10Ni*	14.8	4	10.0	3.57	26.3	23.6	20.1	669	25	32	25	32
W825-7H1.5Ni	10.8	7	1.5	1.38	6.0	5.4	156.8	285	25	25	25	25
W825-7H2.5Ni	12.1	7	2.5	1.78	8.1	7.3	95.0	388	25	25	25	25
W825-7H4.0Ni	13.6	7	4.0	2.26	9.1	8.1	55.8	528	25	32	25	32
W825-8H4.0Ni	16.20	7	4.0	2.26	6.6	6.0	56.0	697	40	-	40	-

[1] LSF or PVC covered cable 70°C
[2] Bare cable 70°C
* Current rating and volt drop values are for 3 phase operation, single conductor cables installed horizontally spaced. All other values are for single phase operation. Up-rating factors apply if not all conductors are used as current-carrying conductors